

April 25, 2001

Steve Bunker  
Sanyo Laser Products, Inc.  
1767 Sheridan Street  
Richmond, Indiana 47374

Re: Registered Operation Status,  
177-12902-00002

Dear Mr. Bunker:

The application from Sanyo Laser Products, Inc., received on October 27, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following CD manufacturing facility, located at 1767 Sheridan Street, Richmond, Indiana 47374, classified as registered:

- (a) Two (2) Natural Gas Scotch Marine Boilers, Capacity: 4.184 MMBtu per hour, Model number 4-5-508-W-60GP, serial numbers 9970 and 9971, exhausting through (2) stacks, referred to as RE 23-01-01-f, stack height: 43 feet, diameter: 1.33 feet, gas flow rate: 4210 cfh, air discharge temperature: 375EF, and RE-24-01-01-F, stack height: 43 feet, diameter: 1.33 feet, gas flow rate: 4216 cfh, air discharge temperature: 375EF.
- (b) One (1) Natural Gas Scotch Marine Boiler, Capacity: 2.556 MMBtu per hour, Model number 3-4.5-260-515GP, serial number 9911, exhausting through (1) stack, referred to as RE 23-01-01-E, stack height: 43 feet, diameter: 1.17 feet, gas flow rate: 2542 cfh, air discharge temperature: 440EF.
- (c) One (1) Injection Molder, Capacity: 100.73 pounds of polycarbonate resin per hour, exhausting through (30 stacks, referred to as SE-07-02-07-K, stack height: 14 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1350 acfm, air discharge temperature: ambient, SE-10-02-10-A, stack height: 14 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1856 acfm, air discharge temperature: ambient, and RE-06-02-12-G, stack height: 32 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1856 acfm, air discharge temperature: ambient.
- (d) Eight (8) U.V. Cure Silk Screen Printing Machines, Capacity of each 0.059 gallons of ink per hour, method of application: machine spread, slow coating, exhausting through (2) stacks, referred to as SE-07-02-07-K, stack height: 14 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1350 acfm, air discharge temperature: ambient, and SE 10-04-10-K, stack height: 14 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1856 acfm, air discharge temperature: ambient.
- (e) Six (6) Coating applicators, capacity of each: 0.084 gallons of clear sealer per hour, method of application: centrifugal flow coating, exhausting through (2) stacks, referred to as RE-05-04-11-F, stack height: 32 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1350 acfm, air discharge temperature: ambient, and SE-10-04-10-K, stack height: 14 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1856 acfm, air discharge temperature: ambient.
- (f) One (1) Diatron Spin Coater, Capacity: 0.084 gallons of clear sealer per hour, method of application: centrifugal flow coating, exhausting through two (2) stacks, referred to as

RE-05-04-11-F, stack height: 32 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1350 acfm, air discharge temperature: ambient, and SE-0=10-04-10-K, stack height: 14 feet, diameter: 5 feet by 1.75 feet, gas glow rate: 1856 acfm, air discharge temperature: ambient.

- (g) Two (2) 13 gallon degreaser tanks, throughput: 1.43 pounds of acetone per hour.
- (h) One (1) Water Soluble Tool, Capacity: 1.05 pounds per hour of actone/isoprep.
- (i) Four (4) Dual Lines, each consisting of two (2) injection molding machines, a powder coating deposition (sputtering) machine, and a coating machine using an ultraviolet cured lacquer coating.
- (j) Five (5) new six color silk screen printing machines using an ultraviolet cured ink.
- (k) Two (2) semilines, each consisting of a sputtering and a coating machine.
- (l) Two (2) nobler coating machines using ultraviolet cured lacquer coating.
- (m) One (1) symphony spray acid tool machine, using a high concentration mix of sulfuric and nitric acids in a three to one ratio.
- (n) One (1) electric Dryer and Feeder vacuum unit.
- (o) One (1) P-caser and caramel packager.
- (p) One (1) electric three speed mastering machine.
- (q) Four (4) polycarbonate injection molding machines.
- (r) One (1) evaporator.

The following conditions shall be applicable:

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
  - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minute (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
2. Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations constructed after January 1, 1980, the owner or operator shall:
  - (a) Equip the cleaner with a cover;
  - (b) Equip the cleaner with a facility for draining cleaned parts;
  - (c) Close the degreaser cover whenever parts are not being handled in the cleaner;

- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
  - (e) Provide a permanent, conspicuous label summarizing the operation requirements;
  - (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.
3. Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation), the owner or operator of a cold cleaner degreaser without remote solvent reservoirs constructed after July 1, 1990, shall ensure that the following requirements are met:
- (a) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
    - (1) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
    - (2) The solvent is agitated; or
    - (3) The solvent is heated.
  - (b) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
  - (c) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
  - (d) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
  - (e) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
    - (1) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
    - (2) A water cover when solvent is used is insoluble in, and heavier than, water.

- (3) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
4. Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:
- (a) Close the cover whenever articles are not being handled in the degreaser.
  - (b) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
  - (c) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
5. Pursuant to 326 IAC 6-2-4 (Emission Limitations for Facilities Specified in 326 IAC 6-2-1(d)) PM emissions from boilers shall be less than 6.38 pounds per hour. To maintain registration status total potential PM emission should not exceed 25 tons per year.

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where: Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input.  
Q = Total source maximum operating capacity rating in million Btu per hour (MMBTU/hr) heat input. The maximum operating capacity rating is defined as maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is conducted in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality  
Original Signed by Paul Dubenetzky

ERG/RB

cc: File - Wayne County  
Wayne County Health Department  
Air Compliance - Warren Greilling  
Permit Tracking - Janet Mobley  
Technical Support and Modeling - Michele Boner  
Compliance Data Section - Karen Nowak

<b>Registration Annual Notification</b>
---

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3).

<b>Company Name:</b>	<b>Sanyo Laser Products, Inc.</b>
<b>Address:</b>	<b>1767 Sheridan Street</b>
<b>City:</b>	<b>Richmond, Indiana</b>
<b>Authorized individual:</b>	<b>Steve Bunker</b>
<b>Phone #:</b>	<b>(765) 935-7574 (Ext. 313)</b>
<b>Registration #:</b>	<b>177-12902-00002</b>

I hereby certify that Sanyo Laser Products Inc. is still in operation and is in compliance with the requirements of Registration 177-12902-00002.

<b>Name (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

## **Indiana Department of Environmental Management Office of Air Quality**

### **Technical Support Document (TSD) for a Registration Renewal**

#### **Source Background and Description**

Source Name: Sanyo Laser Products, Inc.  
Source Location: 1767 Sheridan Road, Richmond, Indiana 47374  
County: Wayne  
SIC Code: 3652  
Operation Permit No.: 177-12902-00002  
Permit Reviewer: ERG/RB

The Office of Air Quality (OAQ) has reviewed a renewal application from Sanyo Laser Products, Inc. relating to the operation of CD Manufacturing facility.

#### **Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control devices:

- (a) Two (2) Natural Gas Scotch Marine Boilers, Capacity: 4.184 MMBtu per hour, Model number 4-5-508-W-60GP, serial numbers 9970 and 9971, exhausting through (2) stacks, referred to as RE 23-01-01-f, stack height: 43 feet, diameter: 1.33 feet, gas flow rate: 4210 cfh, air discharge temperature: 375EF, and RE-24-01-01-F, stack height: 43 feet, diameter: 1.33 feet, gas flow rate: 4216 cfh, air discharge temperature: 375EF.
- (b) One (1) Natural Gas Scotch Marine Boiler, Capacity: 2.556 MMBtu per hour, Model number 3-4.5-260-515GP, serial number 9911, exhausting through (1) stack, referred to as RE 23-01-01-E, stack height: 43 feet, diameter: 1.17 feet, gas flow rate: 2542 cfh, air discharge temperature: 440EF.
- (c) One (1) Injection Molder, Capacity: 100.73 pounds of polycarbonate resin per hour, exhausting through (30 stacks, referred to as SE-07-02-07-K, stack height: 14 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1350 acfm, air discharge temperature: ambient, SE-10-02-10-A, stack height: 14 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1856 acfm, air discharge temperature: ambient, and RE-06-02-12-G, stack height: 32 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1856 acfm, air discharge temperature: ambient.
- (d) Eight (8) U.V. Cure Silk Screen Printing Machines, Capacity of each 0.059 gallons of ink per hour, method of application: machine spread, slow coating, exhausting through (2) stacks, referred to as SE-07-02-07-K, stack height: 14 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1350 acfm, air discharge temperature: ambient, and SE 10-04-10-K, stack height: 14 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1856 acfm, air discharge temperature: ambient.

- (e) Six (6) Coating applicators, capacity of each: 0.084 gallons of clear sealer per hour, method of application: centrifugal flow coating, exhausting through (2) stacks, referred to as RE-05-04-11-F, stack height: 32 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1350 acfm, air discharge temperature: ambient, and SE-10-04-10-K, stack height: 14 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1856 acfm, air discharge temperature: ambient.
- (f) One (1) Diatron Spin Coater, Capacity: 0.084 gallons of clear sealer per hour, method of application: centrifugal flow coating, exhausting through two (2) stacks, referred to as RE-05-04-11-F, stack height: 32 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1350 acfm, air discharge temperature: ambient, and SE-10-04-10-K, stack height: 14 feet, diameter: 5 feet by 1.75 feet, gas flow rate: 1856 acfm, air discharge temperature: ambient.
- (g) Two (2) 13 gallon degreaser tanks, throughput: 1.43 pounds of acetone per hour.
- (h) One (1) Water Soluble Tool, Capacity: 1.05 pounds per hour of acetone/isoprep.
- (i) Four (4) Dual Lines, each consisting of two (2) injection molding machines, a powder coating deposition (sputtering) machine, and a coating machine using an ultraviolet cured lacquer coating.
- (j) Five (5) new six color silk screen printing machines using an ultraviolet cured ink.
- (k) Two (2) semilines, each consisting of a sputtering and a coating machine.
- (l) Two (2) nobler coating machines using ultraviolet cured lacquer coating.
- (m) One (1) symphony spray acid tool machine, using a high concentration mix of sulfuric and nitric acids in a three to one ratio.
- (n) One (1) electric Dryer and Feeder vacuum unit.
- (o) One (1) P-caser and caramel packager.
- (p) One (1) electric three speed mastering machine.
- (q) Four (4) polycarbonate injection molding machines.
- (r) One (1) evaporator.

#### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted facilities operating at this source during this review process.

#### **New Emission Units and Pollution Control Equipment Receiving Prior Approval**

There are no units pending construction in this permit.

#### **Existing Approvals**

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Amendment 13847 issued March 3, 2001;
- (b) Exemption 177-6122-00002, issued on July 24, 1996;

- (c) Registration revision 177-4908-00002 , issued on October 17, 1995;
- (d) Exemption 177-4773-00002, issued October 16, 1995; and
- (e) Registration 177-4340-00002 issued May 24, 1995.

All conditions from previous approvals were incorporated into this permit. Note that the U.V. cured silkscreen printing machines have been reduced from ten (10) to eight (8) in this registration.

### Enforcement Issue

There are no enforcement actions pending.

### Stack Summary

Stack ID	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
RE-02-01-7-G	32	6 x 21	2802	ambient
RE-03-01-7-G	32	6 x 21	2802	ambient
RE-05-04-11-F	32	5 x 21	1350	ambient
RE-06-02-12-G	32	5 x 21	1856	ambient
SE-07-02-07-K	14	5 x 21	1350	ambient
SE-07-03-12-A	14	5 x 21	1350	ambient
SE-07-04-10-K	14	5 x 21	1856	ambient
SE-10-02-10-A	14	5 x 21	1856	ambient
RE-12-03-08-B	14	5 x 21	2802	ambient
SE-16-01-05-A	14	5 x 21	1856	375 F
RE-23-01-01-F	43	1.33	4210 cfh	375 F
RE-24-01-01-F	43	1.33	4216 cfh	375 F
RE-23-01-01-E	43	1.33	2542 cfh	440 F
SE-10-04-10-K	14	5 x 21	1856	ambient

### Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on October 27, 2000, with additional information received on January 10, 2001 and February 26, 2001.

### Emission Calculations

See Appendix A of this document for detailed emissions calculations Appendix A, ie pages 1-8.

### Potential To Emit Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational



design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	0.36
PM-10	0.36
SO <sub>2</sub>	0.03
VOC	5.17
CO	4.02
NO <sub>x</sub>	4.78

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are less than 25 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-6.1.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC is greater than the listed in 326 IAC 2-1.1-3(d)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5-5.
- (d) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

### County Attainment Status

The source is located in Wayne County.

Pollutant	Status
PM-10	attainment
SO <sub>2</sub>	maintenance
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Wayne County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Wayne County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

### Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	0.36
PM10	0.36
SO <sub>2</sub>	0.03
VOC	5.17
CO	4.02
NO <sub>x</sub>	4.78

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on data provided by the applicant and previous permits.

### Part 70 Permit Determination

#### 326 IAC 2-7 (Part 70 Permit Program)

This existing source is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source.

### Federal Rule Applicability

- (a) The boilers are is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40-48c, Subpart Dc), none of the units are larger than 10 MMBtu/hr.
- (b) The degreasing units are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), (40 CFR 63.460-63.469) Subpart T. Because none of the regulated halogenated solvents are used in Sanyo's degreasing operation.
- (c) The printing operations used at Sanyo are not subject to the requirements of the NESHAP (40 CFR 63.820-63.831) Subpart KK as the processes used are not included in this regulation.

### State Rule Applicability - Entire Source

#### 326 IAC 2-6 (Emission Reporting)

This source is located in Wayne County and the potential to emit all criteria pollutants is less than ten (10) tons per year. Therefore, 326 IAC 2-6 does not apply.

#### 326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

#### **State Rule Applicability - Individual Facilities**

##### **326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))**

The operation of the CD manufacturing facility will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

##### **326 IAC 8-1-6 (New Facilities - General Reduction Requirement)**

This source does not have potential VOC emissions equal to or greater than twenty five (25) tons per year, therefore this source is not subject to the provisions of 326 IAC 8-1-6.

##### **326 IAC 8-3-2 (Cold Cleaning Operations)**

The degreasing units shall comply with the provisions of 8-3-2.

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts of at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operating requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

##### **326 IAC 8-3-5 (Cold Cleaner Degreasing Operation and Control)**

The water tool at Sanyo will comply with the requirements of 8-3-5.

- (a) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
  - (1) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));
  - (2) The solvent is agitated; or
  - (3) The solvent is heated.
- (b) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
- (c) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b) of this rule.

- (d) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
- (e) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):
  - (1) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
  - (2) A water cover when solvent used is insoluble in, and heavier than, water.
  - (3) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (f) The owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:
  - (1) Close the cover whenever articles are not being handled in the degreaser.
  - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
  - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

326 IAC 6-2-4 (Emission Limitations for Facilities specified in 326 IAC 6-2-1(d))

- (a) Particulate emissions from indirect heating facilities constructed after September 21, 1983 shall be limited to 5.25 pounds per hour:

$$Pt = \frac{1.09}{Q^{0.26}} = \frac{1.09}{8.37^{0.26}} = \frac{1.09}{1.74} = 0.63$$

Where: Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input.  
Q = Total source maximum operating capacity rating in million Btu per hour (MMBTU/hr) heat input. The maximum operating capacity rating is defined as maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is conducted in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

For the two boilers each rated at 4.184 MMBtu per hour, yields a Pt value of 0.63 pounds per MMBtu, such that the allowable PM emissions would be calculated to be 5.25 pounds per hour. Note the maximum potential to emit (0.08 pounds per hour) is less than the allowable emission rate.

## Conclusion

The operation of this CD manufacturing facility shall be subject to the conditions of the attached proposed Registration 177-12902-00002.

**Appendix A: Emissions Calculations - Summary**  
**Company Name:** Sanyo Laser Products, Inc.  
**Address City IN Zip:** 1767 Sheridan Street, Richmond, Indiana, 47374  
**CP:** 177-12902  
**Plt ID:** 177-00002  
**Reviewer:** ERG/RB  
**Date:** January 23, 2001

Uncontrolled Potential Emissions (tons/yr)

Process	PM*	PM10*	SO2	NOx	VOC	CO
Combustion	0.36	0.36	0.03	4.78	0.26	4.02
Surface Coating	0.00	0.00			0.31	
Injection Molder					0.00	
Degreasing	0.00	0.00	0	0	0.00	0
Water Soluble Tool					4.60	
Evaporator	0.00	0.00	0	0	0.00	0
<b>Total</b>	<b>0.36</b>	<b>0.36</b>	<b>0.03</b>	<b>4.78</b>	<b>5.17</b>	<b>4.02</b>

Uncontrolled Potential Emissions (lbs/hr)

Process	PM*	PM10*	SO2	NOx	VOC	CO
Combustion	0.08	0.08	0.01	1.09	0.06	0.92
Surface Coating	0.00	0.00	0.00	0.00	0.07	0.00
Injection Molder	0.00	0.00	0.00	0.00	0.00	0.00
Degreasing	0.00	0.00	0.00	0.00	0.00	0.00
Water Soluble Tool	0.00	0.00	0.00	0.00	1.05	0.00
Evaporator	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>0.08</b>	<b>0.08</b>	<b>0.01</b>	<b>1.09</b>	<b>1.18</b>	<b>0.92</b>

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

## Appendix A: Emissions Calculations

### Natural Gas Combustion Only

MM BTU/HR <100

### Small Industrial Boiler

Company Name: Sanyo Laser Products, Inc.

Address City IN Zip: 1767 Sheridan Street, Richmond, Indiana, 47374

CP: 177-12902

Plt ID: 177-00002

Reviewer: ERG/RB

Date: January 23, 2001

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

10.9

95.7

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	7.6	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.364	0.364	0.029	**see below	0.263	4.019

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

### Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only**

Page 3 of 8 TSD App A

**MM BTU/HR <100**

**Small Industrial Boiler**

**HAPs Emissions**

**Company Name: Sanyo Verbatim**

**Address City IN Zip: 1767 Sheridan Street, Richmond, Indiana, 47374**

**CP: 177-12902**

**Plt ID: 177-00002**

**Reviewer: ERG/RB**

**Date: January 23, 2001**

**HAPs - Organics**

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.005E-04	5.742E-05	3.589E-03	8.612E-02	1.627E-04

**HAPs - Metals**

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	2.392E-05	5.263E-05	6.699E-05	1.818E-05	1.005E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.  
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations  
VOC and Particulate  
From Surface Coating Operations**

Page 4 of 8 TSD App A

**Company Name:** Sanyo Laser Products, Inc.  
**Address City IN Zip:** 1767 Sheridan Street, Richmond, Indiana, 47374  
**CP:** 177-12902  
**Plt ID:** 177-00002  
**Reviewer:** ERG/RB  
**Date:** January 23, 2001

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Printing Press 1 - UV ink	13.0	0.50%	0.0%	0.5%	0.0%	0.00%	0.00002	2286.000	0.07	0.07	0.00	0.07	0.01	0.00	ERR	100%
Printing Press 2 - UV ink	13.0	0.50%	0.0%	0.5%	0.0%	0.00%	0.00002	2286.000	0.07	0.07	0.00	0.07	0.01	0.00	ERR	100%
Printing Press 3 - UV ink	13.0	0.50%	0.0%	0.5%	0.0%	0.00%	0.00002	2286.000	0.07	0.07	0.00	0.07	0.01	0.00	ERR	100%
Printing Press 4 - UV ink	13.0	0.50%	0.0%	0.5%	0.0%	0.00%	0.00002	2286.000	0.07	0.07	0.00	0.07	0.01	0.00	ERR	100%
Printing Press 5 - UV ink	13.0	0.50%	0.0%	0.5%	0.0%	0.00%	0.00002	2286.000	0.07	0.07	0.00	0.07	0.01	0.00	ERR	100%
Printing Press 6 - UV ink	13.0	0.50%	0.0%	0.5%	0.0%	0.00%	0.00002	2286.000	0.07	0.07	0.00	0.07	0.01	0.00	ERR	100%
Printing Press 7 - UV ink	13.0	0.50%	0.0%	0.5%	0.0%	0.00%	0.00002	2286.000	0.07	0.07	0.00	0.07	0.01	0.00	ERR	100%
Printing Press 8 - UV ink	13.0	0.50%	0.0%	0.5%	0.0%	0.00%	0.00002	2286.000	0.07	0.07	0.00	0.07	0.01	0.00	ERR	100%
Coating Machines 1 SD17 UV Clear	9.1	0.50%	0.0%	0.5%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.07	0.01	0.00	ERR	100%
Coating Machines 1 SD211 UV Clear	9.1	0.60%	0.0%	0.6%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.09	0.02	0.00	ERR	100%
Coating Machines 2 SD17 UV Clear	9.1	0.50%	0.0%	0.5%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.07	0.01	0.00	ERR	100%
Coating Machines 2 SD211 UV Clear	9.1	0.60%	0.0%	0.6%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.09	0.02	0.00	ERR	100%
Coating Machines 3 SD17 UV Clear	9.1	0.50%	0.0%	0.5%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.07	0.01	0.00	ERR	100%
Coating Machines 3 SD211 UV Clear	9.1	0.60%	0.0%	0.6%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.09	0.02	0.00	ERR	100%
Coating Machines 4 SD17 UV Clear	9.1	0.50%	0.0%	0.5%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.07	0.01	0.00	ERR	100%
Coating Machines 4 SD211 UV Clear	9.1	0.60%	0.0%	0.6%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.09	0.02	0.00	ERR	100%
Coating Machines 5 SD17 UV Clear	9.1	0.50%	0.0%	0.5%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.07	0.01	0.00	ERR	100%
Coating Machines 5 SD211 UV Clear	9.1	0.60%	0.0%	0.6%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.09	0.02	0.00	ERR	100%
Coating Machines 6 SD17 UV Clear	9.1	0.50%	0.0%	0.5%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.07	0.01	0.00	ERR	100%
Coating Machines 6 SD211 UV Clear	9.1	0.60%	0.0%	0.6%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.09	0.02	0.00	ERR	100%
Spin Coater SD17 UV Clear	9.1	0.50%	0.0%	0.5%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.07	0.01	0.00	ERR	100%
Spin Coater SD211 UV Clear	9.1	0.60%	0.0%	0.6%	0.0%	0.00%	0.00003	2286.000	0.05	0.05	0.00	0.09	0.02	0.00	ERR	100%

<b>State Potential Emissions</b>	<b>Add worst case coating to all solvents</b>	<b>0.07</b>	<b>1.67</b>	<b>0.31</b>	<b>0.00</b>
----------------------------------	---	-------------	-------------	-------------	-------------

**METHODOLOGY**

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)  
Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)  
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)  
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)  
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)  
Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)  
Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)  
Total = Worst Coating + Sum of all solvents used

surcoat.wk4 9/95



**Appendix A: Emissions Calculations**

**VOC**

**From Injection molding operation**

**Company Name:** 'Sanyo Laser Products, Inc.

**Address City IN Zip:** 1767 Sheridan Street, Richmond, Indiana, 47374

**CP:** 177-12902

**Plt ID:** 177-00002

**Reviewer:** ERG/RB

**Date:** January 23, 2001

The vapor pressure of the resins used in the injection molding process are negligible at operating temperatures as noted in the MSD sheets.

**Appendix A: Emissions Calculations**  
**VOC Emissions**  
**From Degreasing Operations**

Page 6 of 8 TSD App A

**Company Name:** Sanyo Laser Products, Inc.  
**Address City IN Zip:** 1767 Sheridan Street, Richmond, Indiana, 47374  
**CP:** 177-12902  
**Plt ID:** 177-00002  
**Reviewer:** ERG/RB  
**Date:** January 23, 2001

Solvent used in the degreasing operation is Acetone which is not considered a VOC or HAP.

**Appendix A: Emissions Calculations**

**VOC**

**Water Soluble Tool**

**Company Name:** Sanyo Laser Products, Inc.

**Address City IN Zip:** 1767 Sheridan Street, Richmond, Indiana, 47374

**CP:** 177-12902

**Plt ID:** 177-00002

**Reviewer:** ERG/RB

**Date:** January 23, 2001

Potential Emissions

Through put of Isopropanol

1.05 lbs/hr

9198 lbs/yr

4.599 tons/yr

**Appendix A: Emissions Calculations**

**VOC/ HAP**

**Evaporator**

**Company Name:** Sanyo Laser Products, Inc.  
**Address City IN Zip:** 1767 Sheridan Street, Richmond, Indiana, 47374  
**CP:** 177-12902  
**Plt ID:** 177-00002  
**Reviewer:** ERG/RB  
**Date:** January 23, 2001

The facility provided test data to show that VOC emissions from the evaporators were negligible as there were no VOCs in the effluent processed in the evaporators.